

## WHAT IS CLAIMED IS:

1. A process for preparing an aqueous dispersion of pigment-containing polymer particles, comprising the steps of:

- 5 (A) removing an organic solvent from a mixture (I) comprising an organic solvent solution of a polymer, water and optionally a neutralizing agent to give a solvent-removed product; and
- (B) subjecting the solvent-removed product obtained in step (A) to a dispersion treatment,

10 wherein a pigment is added to the mixture (I) or the solvent-removed product.

2. A process for preparing an aqueous dispersion of pigment-containing polymer particles, comprising the steps of:

- 15 (C) mixing an organic solvent solution of a polymer, water and optionally a neutralizing agent with each other to give a mixture (II);
- (D) removing an organic solvent from the mixture (II) obtained in step (C);
- (E) mixing a solvent-removed product obtained in step (D) with a pigment to give a mixture (III); and
- (F) subjecting the mixture (III) obtained in step (E) to a dispersion treatment.

20 3. A process for preparing an aqueous dispersion of pigment-containing polymer particles, comprising the steps of:

- (G) mixing an organic solvent solution of a polymer, water, pigment and optionally a neutralizing agent with each other to give a mixture (IV);
- 25 (H) removing an organic solvent from the mixture (IV) obtained in step (G) to

give a solvent-removed product; and

- (I) \_ subjecting the solvent-removed product obtained in step (H) to a dispersion treatment.

5           4.     A process for preparing an aqueous dispersion of pigment-containing polymer particles, comprising the steps of:

- (C)   mixing an organic solvent solution of a polymer, water and optionally a neutralizing agent with each other to give a mixture (II);
- (K)   mixing the mixture (II) obtained in step (C) with a pigment to give a mixture (VI);
- 10       (L)   removing an organic solvent from the mixture (VI) obtained in step (K) to give a solvent-removed product; and
- (M)   subjecting the solvent-removed product obtained in step (L) to a dispersion treatment.

15           5.     A process for preparing an aqueous dispersion of pigment-containing polymer particles, comprising the steps of:

- (N)   mixing an organic solvent solution of a polymer with a pigment to give a mixture (VII);
- 20       (O)   mixing the mixture (VII) obtained in step (N), water and optionally a neutralizing agent with each other to give a mixture (VIII);
- (P)   removing an organic solvent from the mixture (VIII) obtained in step (O) to give a solvent-removed product; and
- (Q)   subjecting the solvent-removed product obtained in step (P) to a dispersion treatment.
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6. An aqueous dispersion of pigment-containing polymer particles obtained by the process of any one of claims 1 to 5.

5 7. A water-based ink composition comprising the aqueous dispersion of pigment-containing polymer particles of claim 6.

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